

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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*Ex parte*

DENNIS PIPER, WILLIAM CLEVELAND, and JOHN K. LAMPE

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Appeal 2007-2820  
Application 10/771,898  
Technology Center 3700

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Decided: December 14, 2007

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Before DONALD E. ADAMS, DEMETRA J. MILLS, and ERIC GRIMES,  
*Administrative Patent Judges.*

GRIMES, *Administrative Patent Judge.*

**DECISION ON APPEAL**

This is an appeal under 35 U.S.C. § 134 involving claims to a protective headguard, which the Examiner has rejected as anticipated. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

**BACKGROUND**

The Specification discloses “protective headgear intended to reduce angular acceleration of the human brain caused by an impact to the protective headgear” (Spec. 1). “There are two kinds of head acceleration

that can occur in an impact. Acceleration of the head in a plane directed at the head's center of gravity is called linear or translational acceleration. Acceleration along an arc is called angular or rotational acceleration.” (*Id.* at 2.)

The Specification discloses several embodiments of the protective headgear. Most relevant to the appealed claims is the embodiment shown in Figure 8, reproduced below:

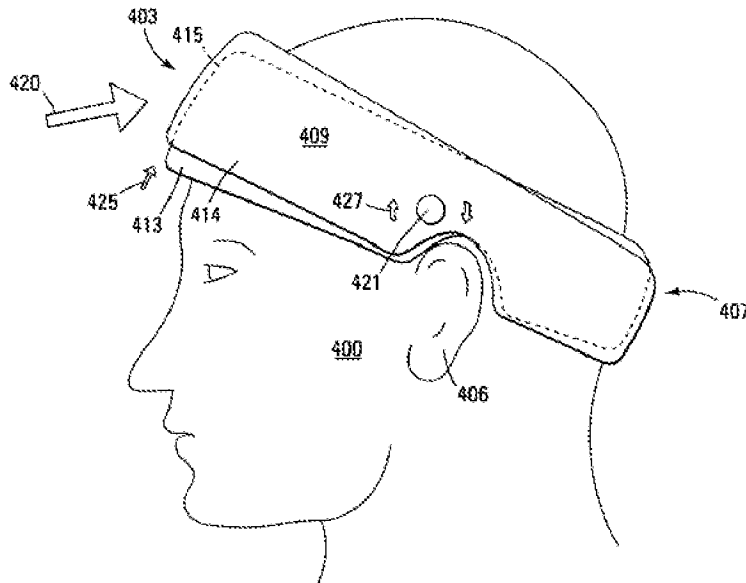


Figure 8 shows

an embodiment [that] permits the entire outer layer 414 to rotate 427 as a unit about the rivets 421, resulting in sliding 425 of the front (unnumbered) and back (unnumbered) portions [of] the interior surface (unnumbered) of the outer layer 415 over the exterior surface (unnumbered) of the inner layer 413.

(*Id.* at 15.)

## DISCUSSION

### 1. CLAIMS

Claims 25-27 are pending and on appeal. Claim 25 is representative and reads as follows:

25. A protective headguard, comprising overlapped inner and outer layers attached at a pair of diametrically opposed points of attachment so as to permit pivoting of the outer layer relative to the inner layer about a pivot axis extending through these points of attachment, with frictional sliding of at least one area of the outer layer over the inner layer when the outer layer is pivoted about the pivot axis relative to the inner layer.

Thus, claim 25 requires the inner and outer layers of the headguard to be “attached at a pair of diametrically opposed points of attachment so as to permit pivoting . . . about a pivot axis extending through these points of attachment.”

### 2. ANTICIPATION

Claims 25-27 stand rejected under 35 U.S.C. § 102(b) as anticipated by Lovell.<sup>1</sup> The Examiner points to Lovell’s Figures 1 and 2 as showing “outer and inner layers 11, 12, [and] diametrically opposed attachment points as at 14 effectively defining a pivot axis for frictional sliding of the outer layer 11 over the inner layer 12” (Answer 3).

Appellants argue that the claimed headguard

attaches the inner and outer layers at a pair of diametrically opposed points of attachment so as to permit *pivoting* of the outer layer relative to the inner layer about a pivot axis extending through the points of attachment. The inner and outer layers on the helmet disclosed by Lovell are attached at multiple points along each side of the helmet, thereby preventing the inner and outer layers from pivoting.

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<sup>1</sup> Lovell, US 4,307,471, Dec. 29, 1981.

(Br. 4.)

We agree with Appellants that the Examiner has not adequately shown that Lovell anticipates the instant claims. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

In this case, Lovell shows a protective helmet with inner and outer layers (Lovell, col. 1, ll. 40-52). Lovell shows the two layers attached at the front and back of the helmet (*id.*, Figure 2). However, in contrast to the instantly claimed headguard, the two layers of Lovell’s helmet are attached in the back of the helmet at two positions (*id.*, Figure 1; col. 2, ll. 44-48). Lovell does not expressly state whether they are also attached at two positions in the front of the helmet, but since Figure 2 is a cross-section through one of the back points of attachment (*id.* at col. 2, ll. 19-20), it is reasonable to conclude that the two layers are attached at two points in the front as well.

The Examiner argues that Lovell’s helmet permits pivoting despite the multiple points of attachment in the back and front of the helmet. The Examiner argues that Appellants’

assertion would require that the pins 14 completely fill the slots 13 . . . to eliminate the possibility of lateral play between the pins and slots. . . . Th[e] relationship as shown between the pins 14 and slots 13 permits play between the pins 14 and slots 13 and would fail to restrict movement between the inner and outer layers to just a lift movement. Further the play between the pins 14 and slots 13 would readily accommodate lateral movement of the pins 14 relative to the slots 13 and therefore relative pivoting between the inner and outer layers.

(Answer 3-4.)

We do not agree with the Examiner's reasoning. Although the Examiner is correct that the two layers of Lovell's helmet can move relative to each other, the claims require more than just movement – they require the layers to be attached “to permit pivoting of the outer layer relative to the inner layer.”

“Pivoting” of one thing relative to another requires rotation of the first thing about the second.<sup>2</sup> It is common knowledge that two things that are attached at three or more points not on the same line cannot rotate, or pivot, about each other. The Examiner's reasoning does not adequately establish that those skilled in the art would understand Lovell's helmet to include a “pivot axis extending through the[ ] points of attachment,” “so as to permit pivoting of the outer layer relative to the inner layer about [that] pivot axis.” We therefore reverse the rejection of claims 25-27 as anticipated by Lovell.

REVERSED

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<sup>2</sup> “pivot . . . 1. To mount on, attach by, or provide with a pivot or pivots. 2. To cause to rotate, revolve, or turn.” Dictionary.com (dictionary.reference.com/browse/pivot, accessed Dec. 10, 2007), citing the American Heritage Dictionary.

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